

CHAPTER IV

IMPLEMENTATION TECHNIQUES

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LAND USE PLAN IMPLEMENTATION

INTRODUCTION

An important functional component of the Leesburg Area Management Plan is a methodology to implement the land use changes and recommendations. Over the ten year life of the plan (1982 - 1992) a series of decisions must be made about proper zoning, subdivision design, capital improvement location, agricultural districts and other policies and programs that will define the Leesburg planning area's future identity. This section will define the implementation procedures in order to help locate the proper land uses within the proper zones.

ENVIRONMENTAL IMPLEMENTATION TECHNIQUES

1. On-site Density Transfer:

Provide developers with additional residential units or floor space if a significant environmental feature is preserved on a site. Examples are historic sites and woodlands. This technique would be implemented under the provisions of the Loudoun County Zoning Ordinance for cluster developments and planned communities.

2. Performance Standards:

Formulate specific standards that can be applied to all land development for the following: erosion and sedimentation, storm-water runoff, construction in Class IV soils. These standards would be contained in a Public Facilities Manual and would be implemented under the Loudoun County Subdivision and Site Plan Ordinance.

3. Land Dedication:

Significant environmental features such as woodlands, slopes greater than 25% and stream valleys can be dedicated as public open space within developments.

AGRICULTURAL IMPLEMENTATION TECHNIQUES

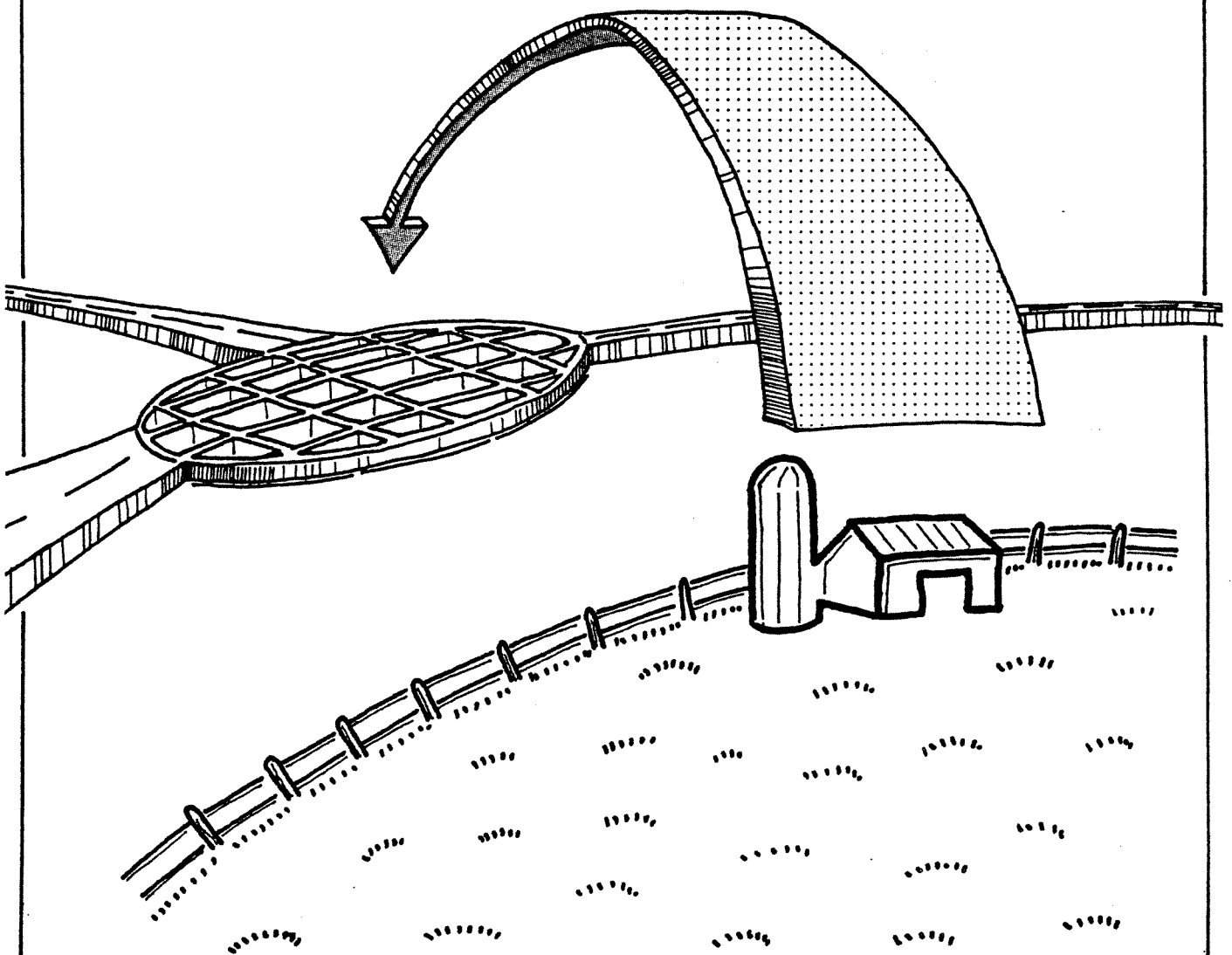
Actions required to implement areawide recommendations:

1. Require Clustering In Agricultural Areas By:

Adopting an amendment to the Zoning Ordinance which would establish a rural cluster zone. Provisions may include the

FIGURE 20

DENSITY TRANSFER



limiting of total percentage of site covered by impervious surfaces, maximum and minimum lot size requirements, and changes in allowable uses, required road frontage, septic field regulations, etc.

2. Encourage The Donation Of Conservation Easements By:

Adopting an ordinance which establishes an official County policy and program to design, accept, hold and enforce open space easements as provided for under the provisions of Article 10-152 and 10-158 of the Code of Virginia as amended.

3. Encourage The Formation Of Agricultural And Forestal Districts By:

Continuing the current policy of adopting all reasonable agricultural district applications which are submitted and which conform to overall County land use policy.

4. Encourage Voluntary Exclusive Agricultural Zones By:

Adopting an amendment to the Zoning Ordinance which establishes specific provisions for an agricultural zone. Such provisions would include the limiting of allowable uses to only those needed for agricultural activities, restricting or eliminating subdivision of land within the zone, and other necessary requirements.

5. Preclude The Extension Of Central Water And Sewer Beyond The Urban Limit Line By:

Not granting rezonings outside the ULL to densities or uses which would require central water and sewer facilities, and not funding, assisting in the construction, or allowing permits for any such facilities extensions.

6. Reduce Allowed Density Of Residential Development In The Sycolin, Oatlands And White's Ferry Planning Districts By:

Either amending the Zoning Ordinance to include a zoning district with a larger lot size requirement for land lying in designated agricultural areas, or changing other provisions of the existing A-3 zoning district such as road frontage requirements, lot configuration, etc. to produce an effectively larger minimum lot size in farming areas.

7. Purchase Conservation Easements From Owners Of Designated Prime Agricultural Land By:

Establishing a program which would formally set forth the methods and procedures for defining acquisition priorities, eligibility criteria, funding sources, administrative matters and other necessary provisions for a successful easement purchase program. The first step would be to do a feasibility study which would show what various levels of funding could achieve and what the long-term net costs to the County taxpayers would be.

8. Lease Conservation Easements From Owners Of Designated Prime Agricultural Land:

The County must carry out the same kind of tasks as required for an easement purchase program as described in number 7 above.

9. Require Special Use Permits For All Non-Agricultural Uses In Agricultural Areas By:

Amending the A-3 District requirements in the Zoning Ordinance to include a provision which would require that non-agricultural uses would require a special use permit in those districts.

10. Allow Density Transfers From Designated Conservation Areas to Designated Development Sites Through the Proffering of Conservation Easements:

The County could transfer allowable development density from a farm to a development site within the ULL in return for a developer proffering a permanent conservation easement on the agricultural site.

HERITAGE IMPLEMENTATION TECHNIQUES

1. Historic Sites:

The County should designate as Historic Sites under the County's zoning ordinance, those sites which are listed on the National Register of Historic Places and the Virginia State Register.

2. County Easements:

The County should accept preservation easements on any of those properties identified by the Virginia Historic Landmarks Commission, and deemed by the County to be historically or archaeologically significant. The County should also encourage and promote such donations by private landowners to other agencies such as the Virginia Historic Landmarks Commission or the Virginia Outdoors Foundation. Under the provisions of Virginia's Open Space Land Act of 1966, the County may only accept such easements for open space preservation and thus could not accept easements on building facades.

3. Design Elements:

Within the Urban Limit Line, the County should encourage, through its Zoning and Subdivision Ordinances, that new development incorporate traditional and historic design techniques such as narrow streets, compact clustered development patterns, human scale design, mixed uses and pedestrian circulation, as specified in the Resource Management Plan.

RESIDENTIAL IMPLEMENTATION

The goal of the Leesburg Area Management Plan is to provide for full and balanced community growth within the urban growth area and to preserve and enhance agricultural functions beyond the Urban Limit Line. The areas immediately around the Urban Growth Areas are seen as still rural in character though with an increasing component of large lot rural residential estates. The Residential Section sets out the broad goals which the County has set for each district.

The following is a formula for determining both the allowable number of units and the effective net density of a residential development in a PDH zone. The first two steps of this formula provide a method for determining the allowable number of units:

TABLE 24

RESIDENTIAL DEVELOPMENT FORMULA FOR PDH ZONE

I. TOTAL TRACT AREA

Less: 100 Year Floodplain
Steep Slopes (25% and over)
Commercial Areas
Employment Areas

= GROSS RESIDENTIAL DEVELOPMENT AREA

II. GROSS RESIDENTIAL DEVELOPMENT AREA X ALLOWABLE DENSITY

= MAXIMUM ALLOWED UNITS FOR ENTIRE
TRACT

The final two steps provide a method for more accurately identifying the real design density of a given project for descriptive and comparative purposes.

III. GROSS RESIDENTIAL DEVELOPMENT AREA

Less: School Sites
Institutional Sites
Parks

= NET RESIDENTIAL DEVELOPMENT AREA

IV. MAXIMUM ALLOWED UNITS (II) ÷ NET RESIDENTIAL AREA (III)

= EFFECTIVE NET DENSITY

All development in the Urban Growth Area should meet the majority of the list of specific criteria in order to qualify for density or FAR at the upper end of the range designed for the property. The discretion of the Planning Commission and the Board of Supervisors will determine the proper density for an application, given the following criteria.

GENERAL DEVELOPMENT CONSIDERATIONS:

1. Comprehensive Plan Compliance
2. Existing zoning and land use patterns
3. Existing density
4. Proffered public facilities
5. Transportation facilities
6. Design amenities
7. Environmental impacts
8. CIP/Fiscal impacts
9. Agricultural/historic easements

SPECIFIC DEVELOPMENT CRITERIA:

1. Proposed concept plan compliance with adopted RMP, area plans
2. Design elements should be compatible with area densities and zoning patterns
3. Public Facilities proffers may include:
 - a. School sites
 - b. Fire and rescue sites
 - c. Library facilities
 - d. Cash contributions for designated community needs, e.g., community center, parks, schools
 - e. Recreational facilities
 - f. CIP designated facilities, e.g., bus garage
 - g. Low and moderate income housing
4. Architectural amenities beyond the normal requirements
5. Historic or agricultural preservation conservation easements
6. Transportation improvements beyond basic design elements
7. Environmental management techniques that go beyond basic requirements

IMPLEMENTATION RECOMMENDATIONS BY PLANNING DISTRICT:

1. White's Ferry

- a. Encourage, within the Urban Limit Line, the location and/or expansion of institutional/medical/equestrian facilities with increased zoning density from the A-3 categories.
- b. Beyond the Urban Limit Line permit the development of large lot single-family residences which incorporate engineering and site planning provisions to abate and minimize environmental damage and disruption to existing agricultural uses.

2. Catoctin Ridge

- a. Permit the development of single-family residences on those small areas where the potential for erosion is minimal.
- b. Encourage analysis and development proposals which respond to the unique and delicate environmental characteristics of the district.

3. Town of Leesburg

- a. Assist the Town of Leesburg with technical, demographic and other assistance in the evaluation of land use proposals within the Town and within the one-mile subdivision jurisdiction if such assistance is requested by the Town.
- b. Encourage new residential infill development within the Town by means of agreements with the Town concerning utility rate structures, proposal evaluation criteria, road and other utility/public facility investments in the Leesburg Planning Area.

4. Edwards' Ferry

- a. Consider zoning the existing C-1 zoned properties to an employment/commercial zone incorporating office/institutional/commercial functions. The commercial center should encompass 10 - 20 acres for a neighborhood type commercial facility.

Encourage consideration on the part of the property owners of the major commercially zoned property in the Edwards'

Ferry District as an integrated, planned development, community focus area of commercial, office, institutional and community facilities surrounded by a compatible mix of townhouse and garden apartment developments. Such a development could be a feasible and positive addition to the Leesburg Area if accompanied by a full complement of public utilities and community facilities.

- b. Consider the zoning of the area to the north of Edwards' Ferry Road (Route 773) and the commercially zoned property to two to three units per acre if necessary community facilities and public utilities can be incorporated in a development proposal which takes the sensitive environmental characteristics of the area into account. This development should relate to the community focus planned development to the south.

5. Lower Tuscarora

- a. Encourage the inclusion of the existing PDH-30 zoned property and the presently zoned R-1 and R-2 properties to the east as integral components of the community which is focused on the rezoned commercial property to the north in the Edwards' Ferry District. The residential density of these properties would be determined by the underlying environmental conditions and by the supporting structure of public utilities and community facilities as well as provisions for land use buffering between these residential functions and those commercial/employment functions to the south.
- b. Provide for the harmonious integration of the proposed residential community in Edwards' Ferry and Lower Tuscarora with the employment functions centered on Route 7 by the development of paths, collector roads and effective land buffers.

6. Upper Tuscarora

- a. Encourage the consideration of this planning district as an integrated community with a variety of housing types with complementary community facilities and local shopping functions and supported by a functional system of public utilities.
- b. The shopping/office/higher density residential focus of this integrated community could be located to the east of Route 621 and the J. Lupton Simpson Middle School

depending on the adequacy of public facilities, notably major collector roads, and on the harmonious design of the different elements within this community focus development.

- c. Residential development in the far eastern and far western portions of the Upper Tuscarora Planning District would be permitted if these incorporate engineering and site planning provisions to abate and minimize damage to the environment and conflicts with employment and agricultural uses in contiguous planning districts. Consider allowing increased density in return for the donation of conservation easements on farmland in the White's Ferry and Oatlands Districts which the developer may own or acquire.

7. Airport

No residential development should be allowed in this district given the incompatibility of this use with aircraft take off/landing, petroleum storage and associated commercial/employment uses. The County should adopt an airport overlay district similar to that for quarries. (See Industrial Implementation, p. 177)

8. Goose Creek

- a. Permit the development of large lot single-family residences which incorporate engineering and site planning provisions to abate and minimize environmental damage and minimize disruption of existing natural resource extraction uses.
- b. Discourage residential development within the quarry overlay zone. (See Industrial Implementation, p. 176)
- c. Develop with the City of Fairfax Water Authority a system of engineering techniques, practices and strategies designed to protect water purity of the Fairfax water impoundment.

9. Sycolin

- a. Permit the development of large lot single-family development in the District but encourage rural residential clustered development where this is feasible and could minimize environmental and adjacent land use impacts.

- b. Landfill Site: The properties surrounding the Loudoun County landfill site on Route 621 are within the rural/residential area and zoned A-3. Further subdivision activity should provide sufficient buffer around the landfill to create both a visual and acoustical barrier for the residences. A berm and landscaping should buffer existing residences around the site. The Solid Waste Master Plan should be implemented with the addition of a berm designed to completely enclose and camouflage the working area of the landfill operation. The berm would vary in height and width depending on the visual barrier provided by the existing tree cover.

10. Oatlands

Permit the development of large lot single-family development but encourage retention of rural/agricultural functions with the development of rural preservation programs (see Table 11 page 75 , Summary of Residential Policies and Recommendations), within the Agricultural/Rural Area).

PUBLIC FACILITIES IMPLEMENTATION

1. Service Plans

County agencies that provide services: School Board, Parks and Recreation Department, Libraries, Fire and Rescue, should all prepare Service Plans which will determine agency goals and purpose, capital facility needs and operational strategy. The Board of Supervisors passed a resolution mandating development of agency Service Plans in February, 1981.

2. Pending and/or regardless of service plan adoption the County will take the following actions:

a. Sewer and Water

- i. Monitor and/or assist the expansion of the present wastewater treatment facility to a capacity of 2.5 million gallons per day.
- ii. Participate in studies regarding the conversion of the sewer plant from AST (advanced secondary treatment) to AWT (advanced waste water treatment).
- iii. Identify long term sewer options to accommodate the Leesburg area's eventual sewer needs of 3.5 - 5.5 million gallons per day as development approaches holding capacity totals.

b. Schools

- i. Seek funding and land acquisition for the construction of one additional elementary school in the 1982 - 1992 plan period.
- ii. Reserve land for eventual construction of 4 - 7 additional elementary schools (for a total 5 - 8 in the Urban Growth Area) during rezonings of land in the Urban Growth Area.
- iii. Seek funding for the enlargement of existing middle and high schools in the latter part of the plan period.
- iv. Reserve land for eventual construction of two additional middle schools and two additional high schools during rezonings of land within the urban growth area.
- v. Reserve land and obtain commitments to build all weather path systems to existing and proposed schools during rezoning and subdivision actions on land in the Urban Growth Area.

c. Library

- i. Acquire a site for a central library facility and seek funding for its construction.

d. Parks and Recreation

- i. Reserve and/or acquire active and passive parkland during rezoning actions on land in the Urban Growth Area.
- ii. Reserve land and obtain commitments to build path systems between the parks and residential areas in the Urban Growth Area.
- iii. Assist in the construction of recreational facilities identified on pages 122 and 123.

e. Solid Waste

- i. Identify and acquire a post 1990 landfill site and/or
- ii. Seek an alternative to present solid waste disposal such as an inter-County cooperative resource recovery facility.

f. Fire/Rescue

- i. Reserve and acquire a site for a Fire/Rescue facility in Edwards' Ferry and lower Tuscarora Districts.
- ii. Assist in the construction of this new facility if needed in the 1982-1992 period.

g. Government Facilities

- i. Identify suitable land for future government facilities generated by growth.
- ii. Acquisition of land parcels conforming to selection criteria developed in the County Government Service Plan.

3. Zoning

In rezoning applications, the County should use the specific guidelines and criteria of this Plan and the RMP for public facilities such as park and recreation land, fire and rescue stations, libraries and school sites. These guidelines are based on nationwide or state standards and should be administered in a clearly defined and fair manner.

TRANSPORTATION IMPLEMENTATION TECHNIQUES

Projected travel demand will increase markedly over the coming decade and major transportation improvements will be required.

TABLE 19

TRIP GENERATION

Existing Trip Generation Estimate:	4,096 units x 8 vehicle trips per day = 32,768 trips per day
1992 Estimated:	6,392 units x 8 vehicle trips per day = 51,136 trips per day
1980-1992 Increase:	18,368 trips per day

Major new road improvements will be required both within the Town of Leesburg and within the designated Urban Limit Line surrounding the town. In order to meet the demand for road improvements many ordinance changes, legislative review, primary ranking by the Planning Commission and Board of Supervisors plus procedural changes will be required to effectively and efficiently meet this demand. These implementation techniques are:

1. Transportation Improvement Program (TIP)

As was recommended in the Eastern Loudoun Area Management Plan, the County should implement a TIP for all road improvements. Primary and secondary improvements should be developed over time with specific funding allocations attached. Cooperation and approval of VDH&T is necessary.

2. Priority For Road Improvements

Secondary road improvements within the designated Urban Limit Line (ULL) should be given priority over improvements outside the ULL.

3. Park-and-Ride Lots

Development plans should be undertaken for approximately 200 bays in park-and-ride lots along the primary arterial roadways in the Leesburg area. These are specifically needed along Route 15 within the upper Tuscarora district and along Route 7 in the lower Tuscarora district.

4. Design Criteria For Bus Accommodations

Transit considerations should be included in subdivision design plans for bus drop-off areas (with shelters) and bus turn-around space on residential streets.

5. Route 15 Corridor

- a. Limited access design provisions should be secured during the rezoning or subdivision process.
- b. Scenic By-way designation for Route 15 from Route 704 to Goose Creek should be sought.
- c. The Fort Evans Road intersection with the Bypass should be closed and realigned north to the Edwards Ferry intersection.

6. Route 7 Corridor

- a. The Route 7 Corridor Study for the Leesburg Area is hereby adopted under the provisions of the Comprehensive Plan. Improvements will be dedicated or constructed by private developers, both on-site and off-site, to promote safe and efficient access for any proposed development along the corridor.
- b. See Transportation Plan, Page 132 for detailed improvements.

7. Proffer Items

Residential and nonresidential development will require public facility improvements to promote high transportation standards. Examples of transportation proffers are:

- a. Right-of-way dedication to VDH&T for road improvements on primary and secondary roads as demand arises: Routes 15, 7, 653, 654, 771, 698, 655, 699, 820, 704, 621, 651, 643, 733, 650, 773 and other secondary roads. Minimum ROW dedication for secondary roads is 25 feet from the center line of the road. Other design criteria are suggested in the text of this document.
- b. Interchange land dedication at Route 15 Bypass and Edwards' Ferry Road and Route 643 and the Bypass plus a partial interchange at relocated Route 654 and Route 7.
- c. Signalization at appropriate intersections
- d. Transit improvements:
 - i. Bus shelters in major rezonings
 - ii. Park-and-ride lots
 - iii. Bus turn-around design for subdivision streets
- e. School Transit Considerations:

Garage and warehouse facility in close proximity to the Leesburg Bypass (Routes 7 & 15).

f. Commercial Improvements: (Shopping Centers)

As noted earlier in this plan, a regional type mall (over 400,000 square feet) is not recommended. If built, it would require grade separated access on primary roads and signalized intersections on secondary roads.

g. Proposed Industrial Access Fund Projects:

- i. Route 654 (realigned)
- ii. Route 653

APPENDIX

PROPOSED LEESBURG AREA ROADWAY DESIGN SPECIFICATIONS

Specifications for right-of-way and road improvements are listed below as a guide for future residential and nonresidential development in the Leesburg area. Final design will require County and VDH&T approval.

PRIMARY ROADS

<u>ROADWAY</u>	<u>LOCATION</u>	<u>LANES & WIDTHS</u>	<u>DESCRIPTION</u>
Route 7 (including Bypass)	Goose Creek to Clarkes Gap	6 lanes with variable right- of-way	Dedication necessary for Route 7 Corridor Study
Business Route 15	North of Town	2 lanes with 80 ft. right-of-way	Dedication for right-of-way and interchange, reverse frontage, rural cross-section
Route 15	South of Town, Bypass to Virts Corner	4 lanes with 80 ft. right-of-way, 48 ft. pavement	Rural cross-section, R4R, Reverse frontage

SECONDARY ROADS

Route 698 (Old Waterford Road)	Town line to end of pave- ment	2 lanes with 60 ft. right-of-way	Rural cross-section
Route 740	15 to end	2 lanes with 50 ft. right-of-way	Maintenance only
Access Road to veterin- arian facil- ity	15 to 698	2 lanes with 60 ft. right-of-way	Rural cross-section
Route 655 (White's Ferry Road)	15 to Potomac River	2 lanes with 60 ft. right-of-way	Dedication for improvements neces- sary

<u>ROADWAY</u>	<u>LOCATION</u>	<u>LANES & WIDTHS</u>	<u>DESCRIPTION</u>
Balls Bluff Road	15 to Balls Bluff cemetery	Cemetery access only	Use existing alignment, preserve tree lines, reverse frontage
Route 644	15 to end	2 lanes with 50 ft. right-of-way	Unpaved roadway
Route 837	15 to end	2 lanes with 60 ft. right of way	Paved roadway when development occurs
Route 773	15 to 15	2 lanes with 60 ft. right-of-way	Rural section
Route 653	7 to 643	4 lanes with 80 ft. right-of-way	Industrial design with rural cross-section
Route 654	7 to 643	2 lanes with 60 ft. right-of-way	Rural section, reverse frontage close Route 7 intersection
Route 654 (extended)	773 to 7	4 lanes with 80 ft. right-of-way	Urban cross-section, reverse frontage
Route 659	7 to 643	4 lanes with 90 ft. right-of-way	Long range plans for dedication
Route 643	7 to 659	4 lanes with 120 ft. right-of-way	Rural cross-section, reverse frontage
Route 621	Within the ULL	4 lanes with 90 ft. right-of-way	Rural cross-section
Route 621	Outside the ULL	2 lanes with 60 ft. right-of-way	Rural cross-section
Route 650	15 North to 15 South	2 lanes with 60 ft. right-of-way	Rural cross-section (realigned Virts Corner)
Route 651	15 to 650	2 lanes with 50 ft. right-of-way	Paved, rural cross-section

<u>ROADWAY</u>	<u>LOCATION</u>	<u>LANES & WIDTHS</u>	<u>DESCRIPTION</u>
Route 771	650 to 621	2 lanes with 50 ft. right-of-way	Paved, rural cross- section
Route 733	15 to end of Planning Area	2 lanes with 60 ft. right-of-way	Realigned out of floodplain
Route 704	15 to 662	2 lanes with 60 ft. right-of-way	Rural cross-section
Route 699	Town line to 820	2 lanes with 60 ft. right-of-way	Rural cross-section
Route 654	7 to 15	4 lanes, R4R with 120 ft. right-of- way	Dedication for improvements
New road from Harper South extended north	7 to 773	4 lanes with 80 ft. right-of-way	Industrial standards
Route 15 parallel col- lector road	Balls Bluff Road to Route 773	4 lanes with 90 ft. right-of-way	Urban cross-section with reverse fron- tage and limited access points

COMMERCIAL IMPLEMENTATION TECHNIQUES

1. The most acceptable type and scale of new commercial facilities for the Leesburg area is the neighborhood shopping center (see definition on page 172). Two such centers could be accommodated outside the town boundaries as shown on Figure 6, page 29 within the Urban Growth Area, designed and located according to the criteria in #5, page 144. Two neighborhood centers are preferable to one large community center or a small regional center since:
 - a. The estimated Leesburg population and related market area is not large enough to support a regional mall without negatively impacting the existing businesses in the town.
 - b. The community design concept for the planning area incorporates two growth areas, south of Leesburg and northeast of Leesburg. Neighborhood commercial facilities and supportive office uses should form the focus for these new communities.
 - c. The general community commercial services for the Leesburg area, including most auto services and department stores, should remain in the Town of Leesburg.
2. The C-1 commercial zoning district is a carry over from the 1959 Zoning Ordinance and remained substantially intact in the 1972 Ordinance. The standards of the C-1 district are inadequate to meet the needs and the desires of the County in the 1980's. There are no requirements for site planning and relatively few requirements covering such standard design elements as landscaping, buffering and parking lot design. It is proposed that the C-1 district be transformed into a new "General Commercial" district which would involve some of the design and site plan standards and procedures that are required for PD districts.
3. The majority of the 250+ acres of land currently zoned C-1 east of the Route 15 bypass should be rezoned as a commercial and office district, with 10 - 20 acres along Edwards Ferry Road for a neighborhood shopping center.

4. The Highway Corridor Protection Overlay Zone should be located adjacent to Routes 7 and 15 and the Route 15 Bypass in order to reduce the incidence of strip commercial development and encroachment on proposed interchange areas, as well as to allow areas for frontage roads and coordinated access points to commercial areas.
5. Neighborhood Centers Definition - The scale, location and design of recommended neighborhood centers should utilize the following criteria:
 - a. Size: 5 - 15 acres, 50,000 - 120,000 gross square feet to serve a population between 5,000 - 10,000 persons.
 - b. Tenants: Convenience stores, laundries, drug stores, grocery supermarkets, personal services, small scale retail outlets such as book stores and clothing shops, real estate and medical offices and community services.
 - c. Function: Mainly for daily and weekly convenience shopping and limited comparison goods shopping.
 - d. Location: Adjacent to but not in the midst of residential areas; not adjacent to schools or parks. Center should have direct access to arterial roadways, but not have direct access to Route 15, Route 7 or the Leesburg bypass.
5. Site Planning Standards for Commercial Development: A guide for developing a detailed ordinance:
 - a. Building Placement and Design
 1. Scale, material and architectural treatment, particularly for neighborhood and community centers, should harmonize with nearby residential structures.
 2. Natural drainage features such as swales and ponds should be conserved to the greatest extent possible.
 3. Building lengths in strip and "L" centers should generally not exceed 500 feet, while a lesser dimension is preferable to conserve the neighborhood scale.

b. Traffic Access, Circulation, Parking and Loading

1. Small neighborhood centers may function adequately with only one point of access to an adjacent street; larger centers (over four acres) should have at least two points of access.
2. Entrances and exits must be located at least 100 feet from the nearest road intersection.
3. No structures or landscaping may obstruct sight distances from access points.
4. The site's vehicular and pedestrian circulation patterns should be separated where appropriate.
5. For neighborhood centers, no more than four rows of parking spaces should be located in front of the stores in order to reduce the visual impact of parked autos and allow clear visibility of shopping areas.*
6. Generally, parking spaces should be located within 350 feet of stores.**
7. Parking spaces should be designed primarily for small cars (approximately 8' x 16' spaces).
8. Drive-in window facilities for banks and restaurants must be placed in a manner which will accommodate a queue of 3-6 vehicles. Such a queue must not block parking spaces, access or circulation lanes.
9. Truck loading and maneuvering areas should not conflict with or block pedestrian or consumer vehicular access points or parking areas.
10. The interior circulation pattern must permit vehicular circulation to all parts of the site without forcing traffic onto the adjacent public road.
11. Easy, safe pedestrian access must be provided from nearby residential areas.

* Joseph DeChiara and Lee E. Koppelman, Urban Planning and Design Criteria, (New York: McGraw Hill Book Co., 1975), p. 446.

** *ibid.*

c. Landscaping and Buffering

1. Natural site environmental features such as hedgerows, mature trees and mounds should be integrated into the site landscape plan.
2. Parking areas should be visually screened from adjacent streets and residential areas by depressing the parking area several feet and/or by construction of earth berms. Wood or masonry fences and walls may be used if berms are not practical.
3. Parking areas should include landscaped tree and hedge areas of an extent to shade the parking areas, thereby reducing the heating and local climate effects of large paved areas.
4. All loading and storage areas must be screened from adjacent residential areas by earth berms, masonry walls, permanent wooden fencing, or dense landscaping.
5. The perimeter of all shopping areas should be landscaped with deciduous street trees along road frontages and opaque evergreen trees and hedges adjacent to residential areas. Detailed landscaping studies must be adopted and incorporated into a site plan ordinance.
6. Parking areas should not extend to the adjacent sidewalks. A minimum five foot green area should separate parking lots from sidewalks or adjacent streets in order to absorb water runoff and eliminate blockage of pedestrian access.
7. Required drainage and stormwater management facilities such as holding basins, drainage swales and culverts should be incorporated into the overall landscape design for the commercial area.

d. Signs and Lighting

1. Signs for shopping centers should be developed as an integral part of the overall shopping center design. Graphics and support structures should be harmonious in style and material with adjacent residential land uses.

2. Identification signs should not exceed the height of adjacent buildings, particularly in neighborhood centers.
3. Parking lot lights should be directed away from nearby residential areas and should be designed to be compatible with residential uses in terms of height, brilliancy, form, texture, and character.

INDUSTRIAL IMPLEMENTATION TECHNIQUE

The County can implement the recommendations for industrial and employment land uses by carrying out the following actions:

1. Review and amend as necessary, the PD-IP, PD-OP and PD-GI District Provisions of the Zoning Ordinance to ensure that each includes sufficient provisions for requiring that:
 - a. Office and industrial uses share access points to major collector roads;
 - b. Office and industrial uses be substantially buffered from major roadways;
 - c. Parking areas be clustered and effectively hidden from state roads by berms, vegetation screens and/or other devices;
 - d. Parking areas be substantially landscaped and shaded with trees and other vegetation;
 - e. Pedestrian and bicycle paths be built to connect the buildings to major offsite pathways.
2. Amend the Zoning Ordinance to include a quarry overlay zone which would:
 - a. Prohibit residential development within the overlay zone;
 - b. Require a minimum 300' buffer of noise-containing berms surrounding each quarry site;
 - c. Require submission of a detailed reclamation plan for the site;
3. Encourage application from landowners to request rezoning of the following tracts, and work with the landowners to obtain the necessary public facilities proffers for the sites:
 - a. Agriculturally zoned land on the south of Route 7 and east of the Town should be rezoned to PD-IP or PD-OP;
 - b. Commercially zoned land on the south side of 7 which is bisected by Route 15 bypass should be rezoned to PD-OP;

- c. Property on the north side of Route 7, now zoned R-2, west of Euram should be rezoned to PD-OP.
- 4. Amend the Zoning Ordinance to include an airport overlay zone which includes at least the following kinds of provisions:
 - a. Prohibition of residential uses within the N.E.F. 40 noise zone;
 - b. Discouragement of residential uses within the N.E.F. 30 noise zone but if such uses are permitted, only very low density housing should be allowed;
 - c. Substantial sound proofing in all habitable structures so that within the interior of such structures the effective NEF is no greater than 20.
 - d. A minimum 300' buffer on the outer edge of, but within, the overlay zone. Such buffer shall be for visual and sound insulation and shall consist of both vegetation and earthen protective devices.